



Alan C. Lloyd, Ph.D.
Agency Secretary
Cal/EPA



Department of Toxic Substances Control

8800 Cal Center Drive
Sacramento, California 95826-3200



Arnold Schwarzenegger
Governor

October 4, 2005

Colonel Kenneth R. Morris
United States Army Reserve
Deputy Chief of Staff Engineer
Department of the Army
Headquarters, 63D Regional Support Command
4235 Yorketown Avenue
Los Alamitos, California 90720-5002

CONCURRENCE OF NO FURTHER ACTION DECISION DOCUMENT FOR THE UNITED STATES ARMY RESERVE CENTER (USARC) PFC YOUNG, VALLEJO, CALIFORNIA

Dear Colonel Morris:

The Department of Toxic Substances Control (DTSC) concurs with the No Further Action (NFA) Decision Document, dated January 14, 2005, for the Grease and Wash Racks at the PFC Robert H. Young USARC at 120 Mini Drive, Vallejo, California. DTSC concurs with the NFA for the reasons described below.

Vallejo USARC is approximately four acres in size and consists of one administrative building and one maintenance building, with the Grease and Wash Racks located between the two buildings. The Racks are believed to have been constructed in the early 1960s. Both Racks were used infrequently due to safety concerns, newer technology, and a reduction in military vehicles at the facility which required maintenance. The Wash Rack was inspected by the USAR in 2001 and was found to have had its sewer line capped. The Grease Rack was demolished in 2003.

A Preliminary Assessment was conducted in 1997, and a phased Site Investigation in May 2001, and July 2001. Two shallow soil samples were obtained in 1997, 24 subsurface soil samples from 11 borings in May 2001, and 17 subsurface soil samples from four borings in July 2001. The purpose of the most recent investigation was to obtain samples from groundwater, as the earlier investigation was not able to complete that task due to equipment limitations. Samples were tested for Volatile and

Colonel Kenneth R. Morris
October 4, 2005
Page 2


Semi-Volatile Organics, Total Volatile Petroleum Hydrocarbons, Total Extractable Petroleum Hydrocarbons, and Metals.

To summarize the results, no organic contaminants were detected in soil, soil gas, or groundwater above U.S. Environmental Protection Agency Region 9 Residential Preliminary Remediation Goals. Arsenic was detected above a limited background level, ranged from 6.6 milligram per kilogram (mg/kg) to 19 mg/kg, and in general increased with depth. As per DTSC's request, two additional soil background locations were sampled for arsenic in October 2002, and background was established as ranging from 3.3 mg/kg to 10.1 mg/kg. DTSC concurred with the Phase II Site Investigation Report's conclusion that the arsenic was within the range of naturally occurring arsenic in a letter dated November 17, 2003.

Mr. Terry Escarda, of my staff, conducted a site inspection on September 2, 2005, to verify the condition of the facility. Mr. Escarda observed no evidence of spills at the Racks' locations, nor in the interior of the vehicle maintenance building, or the vehicle parking areas.

Enclosed is the signed Decision Document. Thank you for the opportunity to review the Decision Document. If you should have any questions, please contact Mr. Escarda at (916) 255-3714.

Sincerely,


Anthony J. Landis, P.E.

Chief
Northern California Operations
Office of Military Facilities

Enclosure

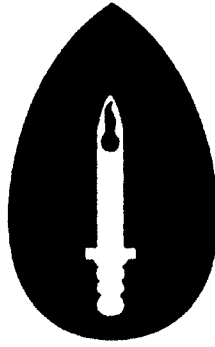
cc: See next page

Colonel Kenneth R. Morris
October 4, 2005
Page 3

cc: Mr. John Russell, P.E.
Chief, Military Facilities Unit
Central Valley Regional Water Quality Control Board
3443 Routier Road, Suite A
Sacramento, California 95827-3098

Mr. Dennis Mishek
Regional Water Quality Control Board
San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, California 94612

Mr. Terry Escarda, P.E.
Department of Toxic Substances Control
Office of Military Facilities
8800 California Center Drive
Sacramento, California 95826



***ROBERT H. YOUNG U.S. ARMY RESERVE
CENTER
120 MINI DRIVE
VALLEJO, CA 94043***

**Installation Restoration Program
Decision Document to Support
No Further Action
(Grease Rack and Vehicle Washrack)**

EPA ID No. CAR000092783

August 2004

Prepared by:

**Mr. J. Stephen Volk
and Ms. Diane A. Clark
63D Regional Readiness Command
Environmental Division
4235 Yorktown Avenue, Bldg 7
Los Alamitos, CA 90720-5002**

**ROBERT H. YOUNG U.S. ARMY RESERVE CENTER
120 MINI DRIVE
VALLEJO, CA 94043
Installation Restoration Program**

**DECISION DOCUMENT TO SUPPORT
NO FURTHER ACTION FOR
GREASE RACK AND VEHICLE WASHRACK**

Prepared By:

**63D Regional Readiness Command
Office of the Deputy Chief of Staff Engineer
Environmental Division
4235 Yorktown Avenue
Los Alamitos, CA 90720-5002**

August 2004

**TECHNICAL DOCUMENT TO SUPPORT THE
NO FURTHER ACTION DECLARATION**

DECISION DOCUMENT

1. SITE AND LOCATION

Installation Restoration Program site for Grease Rack and vehicle washrack.
Robert H. Young U.S. Army Reserve Center
120 Mini Drive
Vallejo, CA 94043

EPA ID No. CAR000092783

2. PURPOSE

This Decision Document represents the selected action for the grease rack and vehicle washrack developed in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), National Contingency Plan (NCP), Resource Conservation and Recovery Act (RCRA), and Army Regulation 200-1, as applicable. It also satisfies the requirements of the National Environmental Policy Act that apply to CERCLA response actions.

Site 01 USARC Vallejo vehicle washrack and Site 02 grease rack: The Vallejo USAR Center is composed of one main reserve building (approximately 13,500 square feet in size) and the maintenance storage building (approximately 2600 square feet in size). The USAR Center is approximately 4 acres in size. The USAR Center also has open areas to park and inspect military vehicles, such as trucks and High Mobility Multi-Purpose Wheeled Vehicles (HMMWVs). The USAR Center is located in an area with residential units and commercial facilities. Several major roadways are located within ¼-mile from the USAR Center.

The grease rack is located between a vehicle washrack and the north fenceline of the USAR Center motorpool. The grease rack consists of two concrete ramps, and is approximately 250 square feet in size. Vehicles were driven up the ramps so that chassis inspection and lubrication could be conducted. The area located under the maintenance area is covered with soil and loose gravel, and was never paved. The grease rack has not been in use since 1989.

The vehicle washrack is located between the grease rack and the maintenance building. The vehicle washrack consists of a concrete pad (approximately 200 square feet in size) and a below-grade oil/water separator (OWS) and associated piping. The OWS is currently not in use, and was observed to be filled with water.

Based on available records and personnel interviews, the grease rack and vehicle washrack were constructed in the early 1960s. Available historical photos and geographical maps indicate a progressive development of the area. The earliest photo (1957) at Enclosure 1 shows no buildings where the current USAR Center is located. In addition, the photo shows that the area was mostly used for residential units. Over the years, the area was advanced to its present development to include more residential units and commercial industries (strip malls). Currently, the 416th FET and the 6632nd Military Police are stationed at the facility. Additional historical photo (1965) is indicated at Enclosure 1 as well, showing the USAR Center constructed.

The grease rack was originally constructed at the USAR Center to assist maintenance personnel in performing vehicle inspections and to lubricate vehicle components. However, the ramps did not meet subsequent safety regulations regarding safety railings. In addition, newer technology (e.g. hydraulic lift) and a general decrease in vehicle maintenance activities performed at the USAR Center also contributed to the lack of use and subsequent abandonment of the grease rack. In 2003, the 63D RRC demolished the concrete grease rack. With this removal it will prevent any unplanned future use of the rack and any unplanned future releases.

The vehicle washrack was installed to assist the washing of military vehicles and vehicle components. The concrete wash pad assisted in the prevention of draining petroleum, oil, and lubricant (POL) and solvent contaminated wastewater from entering the local storm sewer system. However, the vehicle washrack has not been used for several years due to lack of units with military equipment present at the facility. The washrack was inspected in January 2001 and was found to have the sewer line capped to prevent wash water from entering the sewer line. This cap should prevent unauthorized incidental use of the washrack.

Presently, normal vehicle maintenance operations are conducted at the USAR Center. This includes inspection of vehicles and checking/replacing fluids (engine oil, coolant, etc.).

A search of available Federal and state environmental records was conducted by Environmental Data Resources, Inc. (EDR) around the USAR Center. Particular databases and search distances were based on the American Society for Testing and Materials (ASTM) E 1527-97 guidelines. Based on the records searched, several sites with environmental concerns were identified. These include leaking underground storage tank (LUST) sites, hazardous waste generators, and areas with possible environmental contamination. These sites vary in distance and direction from the USAR Center. However, the identified contaminated sites, and any associated remediation operations, are not expected to pose a threat to the USAR Center.

As part of a site investigation study conducted in 1997, two soil samples were collected from the grease rack and vehicle wash rack. The soil samples were collected at approximately 1 foot below ground surface (bgs), and were analyzed for total volatile petroleum hydrocarbons/total extractable petroleum hydrocarbons (TVPH/TEPH), volatile organic compounds (VOCs), and metals. Laboratory results indicated concentrations below California EPA (Cal/EPA) Region 9 Preliminary Remediation Goal (PRG) residential guidelines for TVPH/TEPH and VOCs. Metals were analyzed to be below PRG residential guidelines, with the exception of arsenic and beryllium. However, arsenic and beryllium analytical results are believed to be within the range of concentrations found naturally occurring in western US soils. Table 2-1 summarizes soil sample analytical results above PRG residential guidelines.

Table 2-1
Summary of Soil Samples above Residential PRG Guidelines

Analyte	Subject Site Samples		Residential Soil PRGs (ppm)
	Grease Rack Sample # CA09002	Vehicle Wash Rack Sample # CA09001	
Analyzed Concentrations (ppm)			
Arsenic	14	9.6	0.38
Beryllium	0.39	0.55	0.14

ppm – parts per million

In addition to the above sampling, a site investigation was completed in May 2001 on the grease rack and vehicle washrack to analyze the area for potential contaminants. Site investigation results are discussed below for soil gas and subsurface soil samples. Subsurface soil borings were terminated at a depth of 5-feet bgs and groundwater was not encountered during the SI field investigation. The direct push rig could not drill to a depth below 5 feet bgs. The results for the soil gas samples at IR Site 1 were non-detect for all VOCs analyzed using U.S. EPA Method 8260B, including the duplicate sample collected from soil boring 3 (SB-3). Enclosure 2 presents the soil and soil gas sampling locations Enclosure 3 presents the soil gas sample results.

A total of 24 subsurface soil samples (not including QC samples) were collected from 11 soil borings at depths of 1- and 5-feet bgs, and multiple other depths depending on soil hardness and the limits of the DPT rig to drive the soil sampler. The screening data obtained from the soil gas sampling was used to select the 11 boring locations. Because the soil gas sample results detected multiple VOCs and because deeper samples were unable to be collected using DPT, the following eleven locations were chosen to sample subsurface soil:

Table 4-1 presents sample results for all TEPH detections and for arsenic (that exceeded their U.S. EPA Region IX residential PRG). No SVOCs were detected in the four samples analyzed for SVOCs. Figure 4-2 presents the analytical results for detections of TEPH from the subsurface soil samples and Figure 4-3 presents the analytical results for arsenic concentrations for each subsurface soil sample and can be found at Enclosure 4 and 4a.

No VOCs or TVPH were detected in any soil samples.

TEPH-diesel was detected in the one 1-foot bgs sample collected from SB-15 at 10.0 milligrams per kilogram (mg/kg) and the one 10-foot bgs sample collected from SB-11 at 6.0 mg/kg. TEPH-motor oil was detected in the one 1-foot bgs sample collected from SB-17 at 16 mg/kg and the one 10-foot sample collected from SB-11 at 31 mg/kg.

Arsenic was the only metal to exceed its residential PRG in any of the soil samples. Arsenic exceeded both its residential PRG (0.39 mg/kg) and industrial PRG (2.7 mg/kg) in at least one sample from each soil boring. Arsenic concentrations ranged from 6.6 mg/kg to 19 mg/kg.

Table 4-1
Subsurface Soil Sample Results for TEPH and Arsenic

Soil Boring Location	Sample ID	Depth of Sample (Feet bgs)	TEPH-diesel (mg/kg)	TEPH-motor oil (mg/kg)	Arsenic (mg/kg)
	Residential PRG		N/A	N/A	0.39
SB-3	00VALL-IR01-SS03-1-1	1	ND	ND	7.8
SB-3	00VALL-IR01-SS03-1-5	5	ND	ND	7.6
SB-9	00VALL-IR01-SS09-1-1	1	ND	ND	7.7
SB-9	00VALL-IR01-SS09-1-5	5	ND	ND	16
SB-11	00VALL-IR01-SS11-1-1	1	ND	ND	7.3
SB-11	00VALL-IR01-SS11-1-5	5	ND	ND	19
SB-11	00VALL-IR01-SS11-1-10	10	6.0	31	13
SB-12	00VALL-IR01-SS12-1-1	1	ND	ND	6.5
SB-12	00VALL-IR01-SS12-1-5	5	ND	ND	8.6
SB-13	00VALL-IR01-SS13-1-1	1	ND	ND	7.1
SB-14	00VALL-IR01-SS14-1-1	1	ND	ND	8.8
SB-14	00VALL-IR01-SS14-1-5	5	ND	ND	8.5
SB-15	00VALL-IR02-SS15-1-1	1	10	ND	7.3
SB-15	00VALL-IR02-SS15-1-5	5	ND	ND	16
SB-15	00VALL-IR02-SS15-1-7	7	ND	ND	8.9
SB-17	00VALL-IR02-SS17-1-1	1	ND	16	16
SB-17	00VALL-IR02-SS17-1-5	5	ND	ND	9.2
SB-19	00VALL-IR02-SS19-1-1	1	ND	ND	6.6
SB-19	00VALL-IR02-SS19-1-5	5	ND	ND	4.5
SB-19	00VALL-IR02-SS19-1-10	10	ND	ND	15
SB-23	00VALL-IR02-SS23-1-1	1	ND	ND	7.7
SB-24	00VALL-IR02-SS24-1-5	5	ND	ND	9.2

Notes:

bgs = below ground surface
 mg/kg = milligrams per kilogram
 N/A = Not applicable
 ND = Not detected
 PRG = Preliminary Remediation Goal
 TEPH = Total extractable petroleum hydrocarbons

The soil gas sampling identified that VOCs were a contaminant of concern in soil gas at IR Sites 1 and 2. The actual depth to groundwater was not identified during this SI, but it is believed to be approximately 20-feet bgs (see Section 2.2). The VOCs from the soil gas may be contributing contamination to the groundwater.

The subsurface soil sampling did identify several contaminants as follows:

- TEPH. Both fractions (oil and diesel) were detected in the soil samples at relatively low concentrations. TEPH-diesel was detected in the 1-foot bgs sample collected from SB-15 (10 mg/kg) and in the 10-foot bgs sample collected from SB-11 (6.0 mg/kg). TEPH-motor oil was detected in the 1-foot bgs sample collected from SB-17 (16 mg/kg) and in the 10-foot bgs sample collected from SB-11 (31 mg/kg). No TVPH were detected in any soil samples;
- VOCs. No VOCs were detected in any soil samples; and
- Metals. Arsenic was detected in several samples above both its residential and industrial PRG, but was below its alternate noncancer endpoint industrial PRG. The maximum arsenic concentration was 19 mg/kg in the 5-foot bgs sample collected from SB-11. In general, arsenic concentrations increased at deeper sampling depths. The naturally occurring arsenic background concentrations in the Western U.S. range from <0.1 to 97 mg/kg and the detection of arsenic may be reflective of naturally occurring arsenic concentration levels.

It was recommended that a Phase II Site Investigation at IR Sites 1 and 2 be performed based on the soil gas results and because sampling depths were limited due to soil conditions and the capabilities of the DPT rig. The Phase II SI should include collecting deeper soil samples (i.e., 15-, 20-, 25-, and 30-foot bgs) using a hollow stem auger rig. Groundwater grab samples may also be collected if groundwater is reached prior to obtaining a depth of 30-feet bgs. In addition, background soil samples should be collected to establish background metals concentrations at the site to be used to further evaluate the arsenic concentration in soil. Hollow stem auger borings are recommended to be drilled at boring locations SB-4, SB-9, SB-13, SB-17, and SB-20 (refer to Figure 4-1).

In July 2001, a Phase II Site Investigation was conducted and used a hollow stem auger to obtain the desired 25 foot depth. A total of 17 subsurface soil samples were collected (15 primary samples and 2 duplicate samples) from depths of 15-, 20-, and 25-feet bgs. All soil samples were analyzed for VOCs, SVOCs, TVPH, TEPH, and PAHs.

Table 4-1a presents results for samples in which VOCs, TVPH, and TEPH were detected. No SVOCs or TEPH were detected in any soil samples. Figure 4-1 (Enclosure 5) presents the analytical results for acetone, PCE, and TVPH detected in the subsurface soil samples. All detections of acetone, PCE, and TVPH were qualified as estimated by the analytical laboratory.

Preliminary Assessment
Robert H. Young USARC - Vallejo

Table 4-1a
Subsurface Soil Sample Results for VOCs, SVOCs, TVPH, and TEPH
July 2001

Soil Boring Location	Sample ID	Depth of Sample (Feet bgs)	Acetone (µg/kg)	PCE (µg/kg)	SVOCs (µg/kg)	TVPH (mg/kg)	TEPH (mg/kg)
	Residential PRG		1,600,000	1,200	N/A	N/A	N/A
	Reporting Limit		5	5	500-2,500	10	10
SB-04A	01-IR01-SS04A-1-15	15	ND	ND	ND	ND	ND
SB-04A	01-IR01-SS04A-1-20	20	ND	ND	ND	ND	ND
SB-04A	01-IR01-SS04A-1-25	25	ND	ND	ND	ND	ND
SB-13A	01-IR01-SS13A-1-15	15	ND	1.3 J	ND	1.2 U	ND
SB-13A	01-IR01-SS13A-3-15*	15	5.2 J	ND	ND	0.054 J	ND
SB-13A	01-IR01-SS13A-1-20	20	ND	1.3 J	ND	ND	ND
SB-13A	01-IR01-SS13A-1-25	25	ND	ND	ND	0.07 J	ND
SB-15A	01-IR01-SS15A-1-15	15	ND	ND	ND	ND	ND
SB-15A	01-IR01-SS15A-1-20	20	ND	ND	ND	ND	ND
SB-15A	01-IR01-SS15A-1-25	25	ND	1.3 J	ND	ND	ND
SB-17A	01-IR01-SS17A-1-15	15	ND	ND	ND	ND	ND
SB-17A	01-IR01-SS17A-1-20	20	ND	4.2 J	ND	ND	ND
SB-17A	01-IR01-SS17A-1-25	25	ND	ND	ND	1.2 UJ	ND
SB-20A	01-IR01-SS20A-1-15	15	ND	ND	ND	ND	ND
SB-20A	01-IR01-SS20A-3-15*	15	ND	ND	ND	1.1 U	ND
SB-20A	01-IR01-SS20A-1-20	20	ND	ND	ND	1.1 UJ	ND
SB-20A	01-IR01-SS20A-1-25	25	ND	ND	ND	ND	ND

Notes: * duplicate samples

bgs = below ground surface
 µg/kg = micrograms per kilogram
 mg/kg = milligrams per kilogram
 J = result is detected below the reporting limit or is an estimated value
 N/A = not applicable
 ND = not detected
 PCE = tetrachloroethene
 PRG = Preliminary Remediation Goal
 SVOCs = semi-volatile organic compounds
 TEPH = total extractable petroleum hydrocarbons
 TVPH = total volatile petroleum hydrocarbons
 U = indicates that the analyte was analyzed for but not detected at or above the stated limit

Acetone was detected in the duplicate 15-foot bgs sample collected from SB-13A at 5.2 micrograms per kilogram ($\mu\text{g/kg}$). PCE was detected in four of the soil samples: the primary 15-foot bgs sample and the 20-foot bgs sample collected from SB-13A, the 25-foot bgs sample collected from SB-15A, and the 20-foot bgs sample collected from SB-17A at 1.3 $\mu\text{g/mg}$, 1.3 $\mu\text{g/mg}$, 1.3 $\mu\text{g/mg}$, and 4.2 $\mu\text{g/kg}$, respectively. TVPH was detected in two of the soil samples: the duplicate 15-foot bgs sample collected from SB-13A at a concentration of 0.054 J milligrams per kilogram (mg/kg) and the 25-foot bgs sample collected from SB-13A at a concentration of 0.07 J mg/kg .

Table 4-2 presents the results for samples in which PAHs were detected. Figure 4-1 (Enclosure 5) presents the analytical results for those PAHs detected in the subsurface soil samples. All detections of PAHs were qualified as estimated by the analytical laboratory.

Acenaphthylene was detected in six of the soil samples ranging from 56 J $\mu\text{g/kg}$ to 120 J $\mu\text{g/kg}$. Benzo(b)fluoranthene was detected in four of the soil samples ranging from 2.6 J $\mu\text{g/kg}$ to 6.6 $\mu\text{g/kg}$. Benzo(k)fluoranthene, benzo(g,h,i)perylene, benzo(a)pyrene, and dibenzo(a,h)anthracene, were detected only in the 25-foot bgs sample collected from SB-20A at 3 J $\mu\text{g/kg}$, 3 J $\mu\text{g/kg}$, 2.6 J $\mu\text{g/kg}$, and 5.8 J $\mu\text{g/kg}$, respectively. Indeno(1,2,3-cd)pyrene was detected in two of the soil samples: the 25-foot bgs sample collected from SB-13A at 1.4 J $\mu\text{g/kg}$ and the 25-foot bgs sample collected from SB-20A at 1.8 J $\mu\text{g/kg}$. Phenanthrene was detected in six of the soil samples ranging from 2.3 J $\mu\text{g/kg}$ to 6.2 J $\mu\text{g/kg}$. Pyrene was detected in three of the soil samples ranging from 3.1 J $\mu\text{g/kg}$ to 3.7 J $\mu\text{g/kg}$.

Two background soil borings were collected during the initial sampling and two additional background soil borings were collected on 24 October 2002. Each boring was sampled at 2 feet bgs and 4 feet bgs to establish the background concentration of arsenic in the soil. Table 4-3 presents the analytical results for only those CAM analytes detected in the four initial background samples and for arsenic only for the October 2002 samples. The naturally occurring arsenic concentrations in the background soil samples ranged between 3.3 mg/kg and 10.1 mg/kg . These background concentrations exceed the established EPA PRG for arsenic. The arsenic concentrations detected in the previous site samples range between 4.5 mg/kg and 19 mg/kg . Six of these samples were found to contain arsenic above the highest background concentration. These concentrations may also be representative of background concentrations. Sixteen samples were found to contain arsenic within the identified background concentrations.

Preliminary Assessment
Robert H. Young USARC - Vallejo

Table 4-2
Subsurface Soil Sample Results for PAHs
July 2001

Soil Boring Location	Sample ID	Depth of Sample (Feet bgs)	Acenaphthylene (µg/kg)	Benzo(b)fluoranthene (µg/kg)	Benzo(k)fluoranthene (µg/kg)	Benzo(g,h,i)perylene (µg/kg)	Benzo(a)pyrene (µg/kg)	Dibenzo(a,h)anthracene (µg/kg)	Indeno(1,2,3-cd)pyrene (µg/kg)	Phenanthrene (µg/kg)	Pyrene (µg/kg)
Residential PRG			3,700,000	620	6,200	N/A	62	62	620	N/A	2,300,000
	Reporting Limits		500	500	500	500	500	500	500	500	500
SB-04A	01-IR01-SS04A-1-15	15	56 J	ND	ND	ND	ND	ND	ND	2.9 J	ND
SB-04A	01-IR01-SS04A-1-20	20	120 J	ND	ND	ND	ND	ND	ND	ND	ND
SB-04A	01-IR01-SS04A-1-25	25	ND	ND	ND	ND	ND	ND	ND	ND	ND
SB-13A	01-IR01-SS13A-1-15	15	ND	ND	ND	ND	ND	ND	ND	ND	ND
SB-13A	01-IR01-SS13A-3-15*	15	ND	ND	ND	ND	ND	ND	ND	ND	ND
SB-13A	01-IR01-SS13A-1-20	20	ND	ND	ND	ND	ND	ND	ND	ND	ND
SB-13A	01-IR01-SS13A-1-25	25	74 J	6 J	ND	ND	ND	ND	1.4 J	ND	3.7 J
SB-15A	01-IR01-SS15A-1-	15	ND	ND	ND	ND	ND	ND	ND	2.3 J	ND

Preliminary Assessment

Robert H. Young USARC - Vallejo

[illegible]

Notes: * duplicate samples	
bgs	below ground surface
μg/kg	micrograms per kilogram
j	result is detected below the reporting limit or is an estimated value
N/A	Not applicable
ND	Not detected
PAHs	polynuclear aromatic hydrocarbons
PRG	Preliminary Remediation Goal

Preliminary Assessment
Robert H. Young USARC - Vallejo

Table 4-3
Background Metals Soil Sample Concentrations
July 2001 and October 2002

Sample ID	01-IR01- BK1-1-2	01-IR01-BK1- 1-4	01-IR01-BK2- 1-2	01-IR01-BK2- 1-4	02-IR01- BK3-1-2	02-IR01- BK3-1-2	02-IR01- BK4-1-2	02-IR01- BK4-1-2
Depth of Sample (feet bgs)	2	4	2	4	2	4	2	4
Residential PRG (mg/kg)	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Arsenic	0.39	0.3	10.1	3.3	9.53	6.48	8.8	8.9
Barium	5,400	1	198	193	231	220	NA	NA
Beryllium	150	0.2	0.562 U	0.276 U	0.607 U	0.613 U	NA	NA
Chromium	210	0.5	50.1	32	52	51.8	NA	NA
Cobalt	900	0.5	11.5	10.3	15.4	18.7	NA	NA
Copper	3,100	0.5	34.5	22.3	42.5	59.9	NA	NA
Lead	150	0.3	7.62	1.45	26.3	10.4	NA	NA
Molybdenum	390	0.2	ND	1.1 J	1.65 J	1.27 J	NA	NA
Nickel	1,600	0.3	33.9	36.2	37.9	43.2	NA	NA
Vanadium	550	0.5	84.3	70.5	89.4	73.2	NA	NA
Zinc	23,000	0.5	46.4	49.1	80.4	85.6	NA	NA

Notes:

The naturally occurring arsenic concentrations in the Western U.S. range between <0.1 and 97 mg/kg.
 bgs = below ground surface
 BK = background
 J = result is detected below the reporting limit or is an estimated value
 mg/kg = milligrams per kilogram
 NA = not analyzed
 PRG = Preliminary Remediation Goal
 U = indicates that the analyte was analyzed for but not detected at or above the stated limit

Preliminary Assessment
Robert H. Young USARC - Vallejo

A total of 6 groundwater grab samples were collected (5 primary samples and 1 duplicate sample). Four of the samples were taken from depths of 30-feet bgs and one of the samples was taken from 25-feet bgs. All groundwater grab samples were analyzed for VOCs, SVOCs, TVPH, TEPH, and PAHs.

No VOCs were detected in any of the samples. Figure 4-2 (Enclosure 5a) presents the results for analytes detected in the groundwater grab samples. The one SVOC detected was qualified as estimated by the analytical laboratory. Bis(2-ethylhexyl)phthalate was detected in the primary groundwater grab sample collected from SB-04A at 6.9 J micrograms per liter (µg/L).

Table 4-4 presents the sample results for all groundwater TVPH, TEPH, and PAH detections. All detections of TVPH, TEPH, and PAH were qualified as estimated by the analytical laboratory. TEPH was detected in the duplicate sample collected from SB-04A at 0.25 milligrams per liter (mg/L). Benzo(g,h,i)perylene was detected in the samples collected from SB-13A and SB-20A at 0.16 mg/L and 0.14 mg/L, respectively. Naphthalene was detected in the primary sample collected from SB-04A at 0.61 mg/L.

Table 4-4
Groundwater Grab Sample Results for TVPH, TEPH, and PAHs
July 2001

Soil Boring Location	Sample ID	Depth of Sample (Feet bgs)	TVPH (mg/L)	TEPH (mg/L)	Benzo(g,h,i)perylene (µg/L)	Naphthalene (µg/L)
	Action Level		N/A	N/A	N/A	170
	Reporting Limits		0.5	0.5	10	10
SB-04A	01-IR01-GW04A-1-30	30	0.1 UJ	ND	ND	0.61 J
SB-04A	01-IR01-GW04A-3-30*	30	0.1 UJ	0.25 J	ND	ND
SB-13A	01-IR01-GW13A-1-30	30	0.1 UJ	ND	0.16 J	ND
SB-15A	01-IR01-GW15A-1-30	30	0.1 UJ	ND	ND	ND
SB-17A	01-IR01-GW17A-1-25	25	0.1 UJ	ND	ND	ND
SB-20A	01-IR01-GW20A-1-30	30	0.1 UJ	ND	0.14 J	ND

Notes: * duplicate sample
 bgs = below ground surface
 mg/L = milligrams per liter
 µg/L = micrograms per liter
 J = result is detected below the reporting limit or is an estimated value
 N/A = Not applicable
 ND = Not detected
 PAHs = polynuclear aromatic hydrocarbons
 TEPH = total extractable petroleum hydrocarbons
 TVPH = total volatile petroleum hydrocarbons
 U = indicates that the analyte was analyzed for but not detected at or above the stated limit

Analysis of the subsurface soil samples collected during July 2001 identified several contaminants as follows:

- TVPH. TVPH was detected in six soil samples at low concentrations. The TVPH concentration ranged from 0.054 J mg/kg to 0.092 J mg/kg. All of the TVPH concentrations were below the reporting limit;
- VOCs. Acetone was detected in one sample below the reporting limit at a concentration of 5.2 J µg/kg. PCE was detected below the reporting limit and below the Residential PRG in four samples. The maximum PCE concentration was 4.2 J µg/kg; and
- PAHs. All PAH concentrations were detected below their respective reporting limits and therefore qualified by the laboratory as estimated. Acenaphthylene was detected in six soil samples. Benzo(b)fluoranthene was detected in four of the soil samples and indeno(1,2,3-cd)pyrene was detected in two of the 25-foot soil samples. Phenanthrene was detected in five of the soil samples, pyrene was detected in three of the soil samples, benzo(k)fluoranthene, benzo(g,h,i)perylene, benzo(a)pyrene, and dibenzo(a,h)anthracene were all detected in the 25-foot bgs sample from SB-20A.

No subsurface soil sample results exceeded associated PRGs for any analyte. No TEPH or SVOCs were detected in any of the subsurface soil samples.

Two background soil borings were collected during the initial sampling and two additional background soil borings were collected on 24 October 2002. The naturally occurring arsenic concentrations in the background soil samples were between 3.3 mg/kg and 10.1 mg/kg.

Several contaminants were detected in the groundwater grab samples as follows:

- TEPH. TEPH was detected below the reporting limit in one groundwater grab sample (SB-04A) at a concentration of 0.25 J mg/L;
- TVPH. TVPH was detected in all six groundwater grab samples below the reporting limit. The concentration of TVPH ranged from 0.017 J mg/L to 0.036 J mg/L;
- VOCs. No VOCs were detected in any of the groundwater grab samples;
- SVOCs. Bis(2-ethylhexyl)phthalate, a common laboratory contaminant, was the only SVOC detected in the groundwater grab sample collected from SB-04A at 6.9 J µg/L, below the reporting limit; and
- PAHs. Two PAHs were detected in the groundwater grab samples. Benzo(g,h,i)perylene was detected below the reporting limit in two of the groundwater grab samples (SB-04A and SB-20A). Naphthalene was detected below the reporting limit in one groundwater grab sample (SB-04A).

No groundwater sample results exceeded associated screening criteria.

The depth to groundwater in the five soil borings drilled during this Phase II site investigation ranged between 22 feet bgs and 29 feet bgs. The groundwater flow direction is to the west-southwest. Based on the groundwater grab sample results, it was recommended that no further groundwater investigation at IR Sites 1 and 2 be performed; nor should further investigations be required for the soil, based on the results of this Phase II SI and from results from the first phase of the SI. The concentrations of arsenic identified in the first phase of the SI in soil samples are representative of naturally occurring background concentrations and thus require no further investigation. Thus concluding that no further investigations should be conducted at sites 1 and 2 at the Vallejo USAR Center.

In Summary, the grease rack and vehicle washrack at the Vallejo USAR Center were formerly used to inspect vehicle chassis and lubricate vehicle components and to wash military equipment. But these two sites have not been used in many years as the facility has been vacant or having no units that had military equipment located in the motorpool. Initial soil samples collected from the subject sites and samples collected during the follow on site investigations indicate analyzed chemicals below regulatory residential guidelines or within background levels. The former use of the grease rack and vehicle washrack and associated work tasks conducted near these two sites are not suspected of contaminating groundwater or surface water. Based on the present tasks conducted around these two sites, the likelihood of human exposure to any possible contaminated soil is minimal.

3. DESCRIPTION OF THE SELECTED REMEDY

It has been determined that the selected remedy of no further action is protective of human health and the environment, attains federal and state requirements that are applicable or relevant and appropriate, and is cost effective. This decision document describes the selected action based on the results of Installation Restoration Program (IRP) Phase 1 Records Search for Preliminary Assessment and Phase 2 site investigations conducted under the IRP and letter received from DTSC dated 17 November 2003, shown as Enclosure 6.

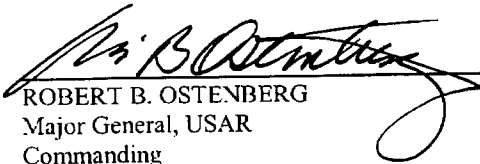
4. DECLARATION

Based on the investigation conducted at this site as described herein, it has been determined that contamination no longer exists above the ARARs. Therefore, the selected remedy of no further action is deemed appropriate under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as required.

5. APPROVAL AND SIGNATURE

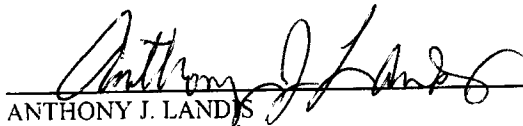
SIGNATURES:

FOR US ARMY RESERVE


ROBERT B. OSTENBERG
Major General, USAR
Commanding
63D Regional Readiness Command

11 Dec 04
Date

FOR STATE OF CALIFORNIA


ANTHONY J. LANDIS
Chief, Northern California Operations
Office of Military Facilities
Department of Toxic Substances Control

10-4-05
Date

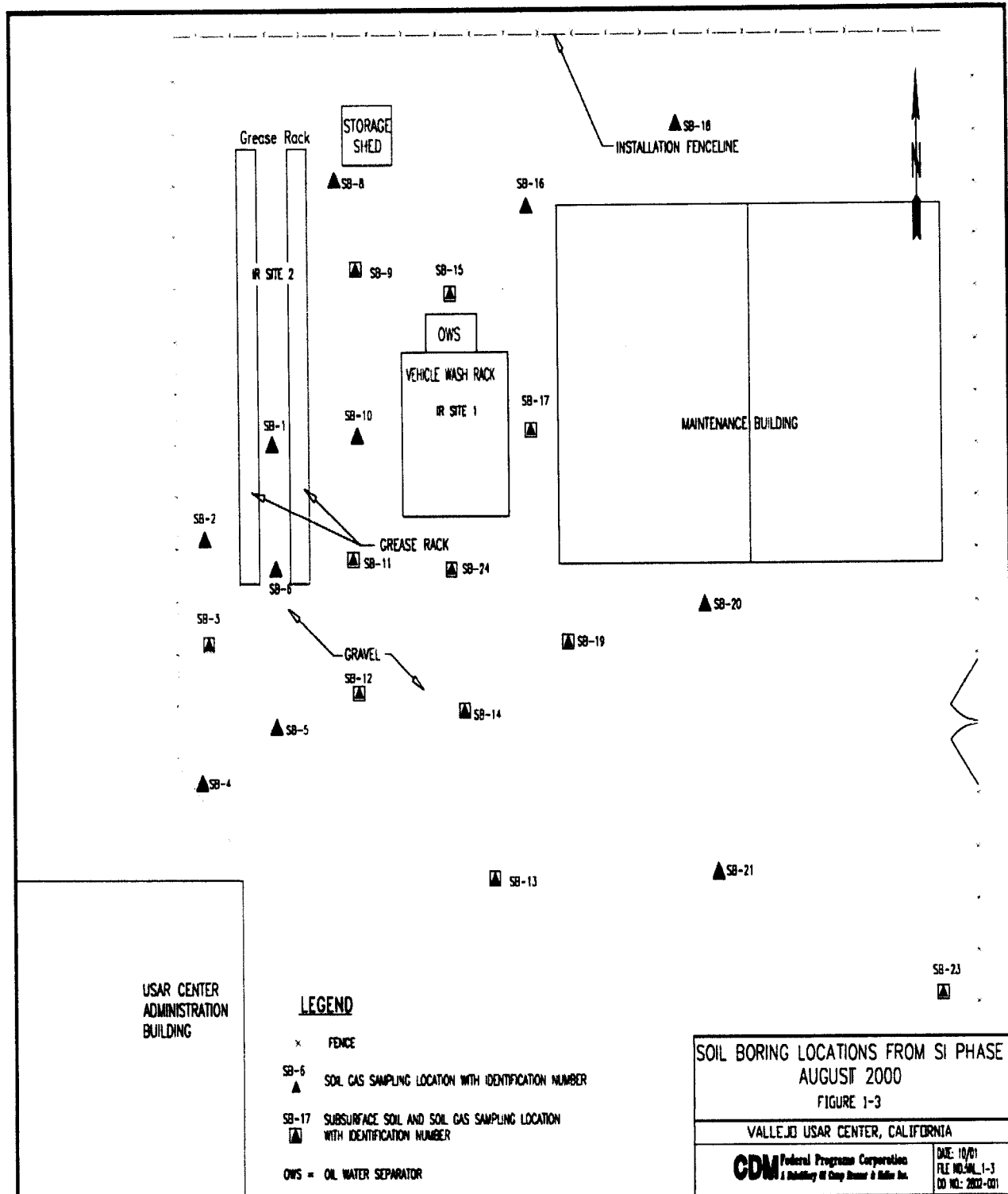
Enclosure 1
Vallejo USAR Center Aerial Photo 1957



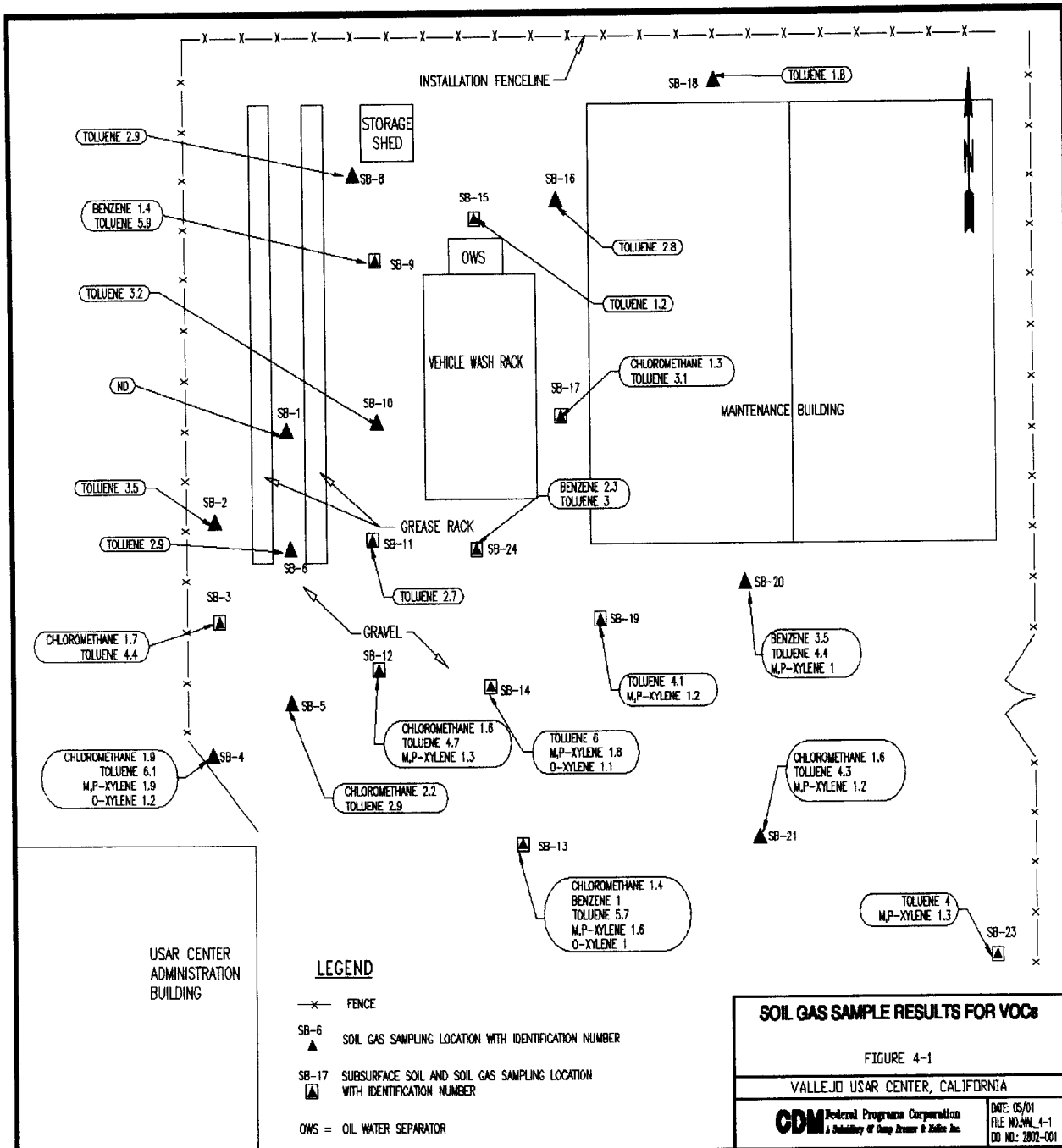
Enclosure 1 Continued
Vallejo USAR Center Aerial Photo 1965



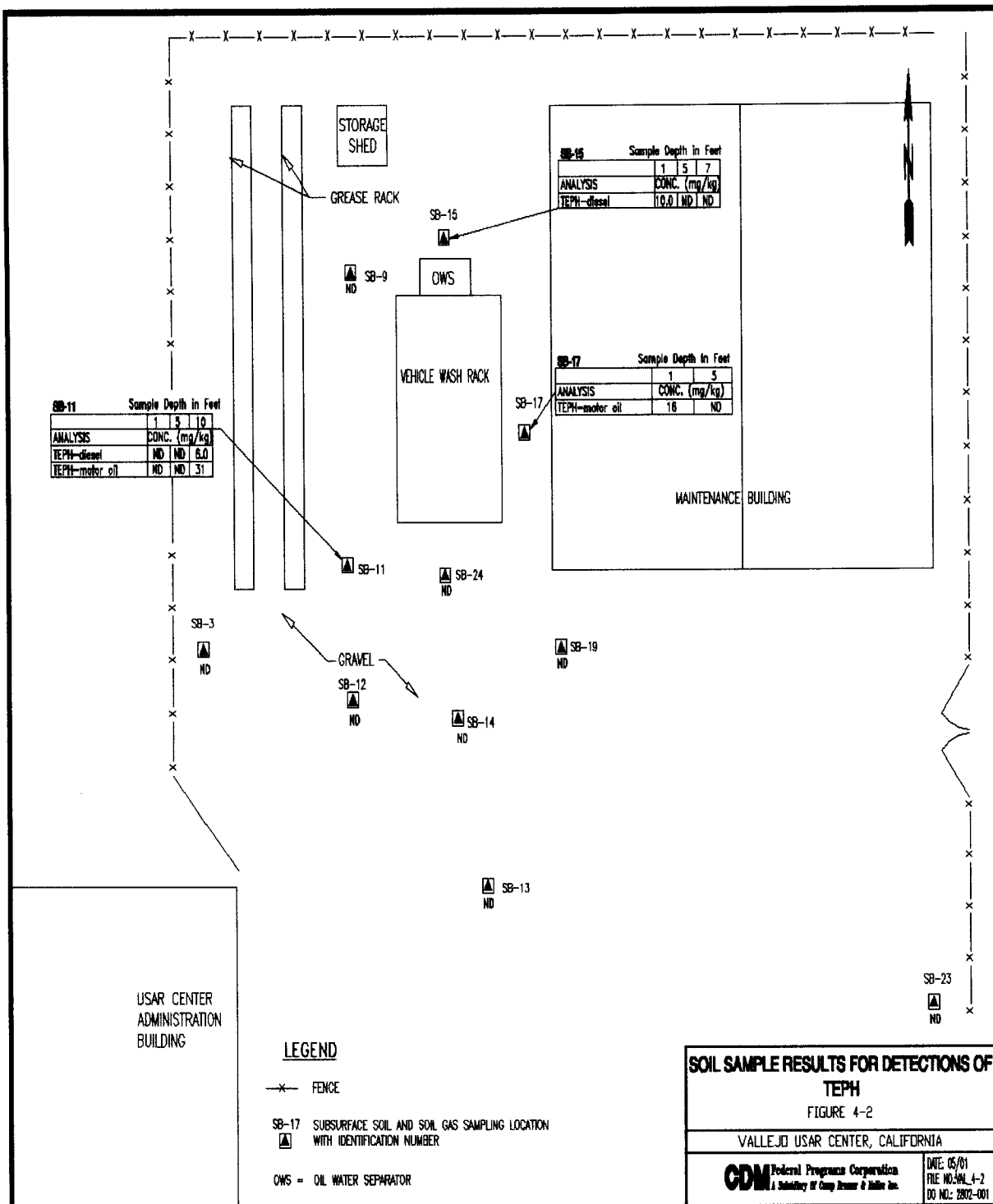
Enclosure 2



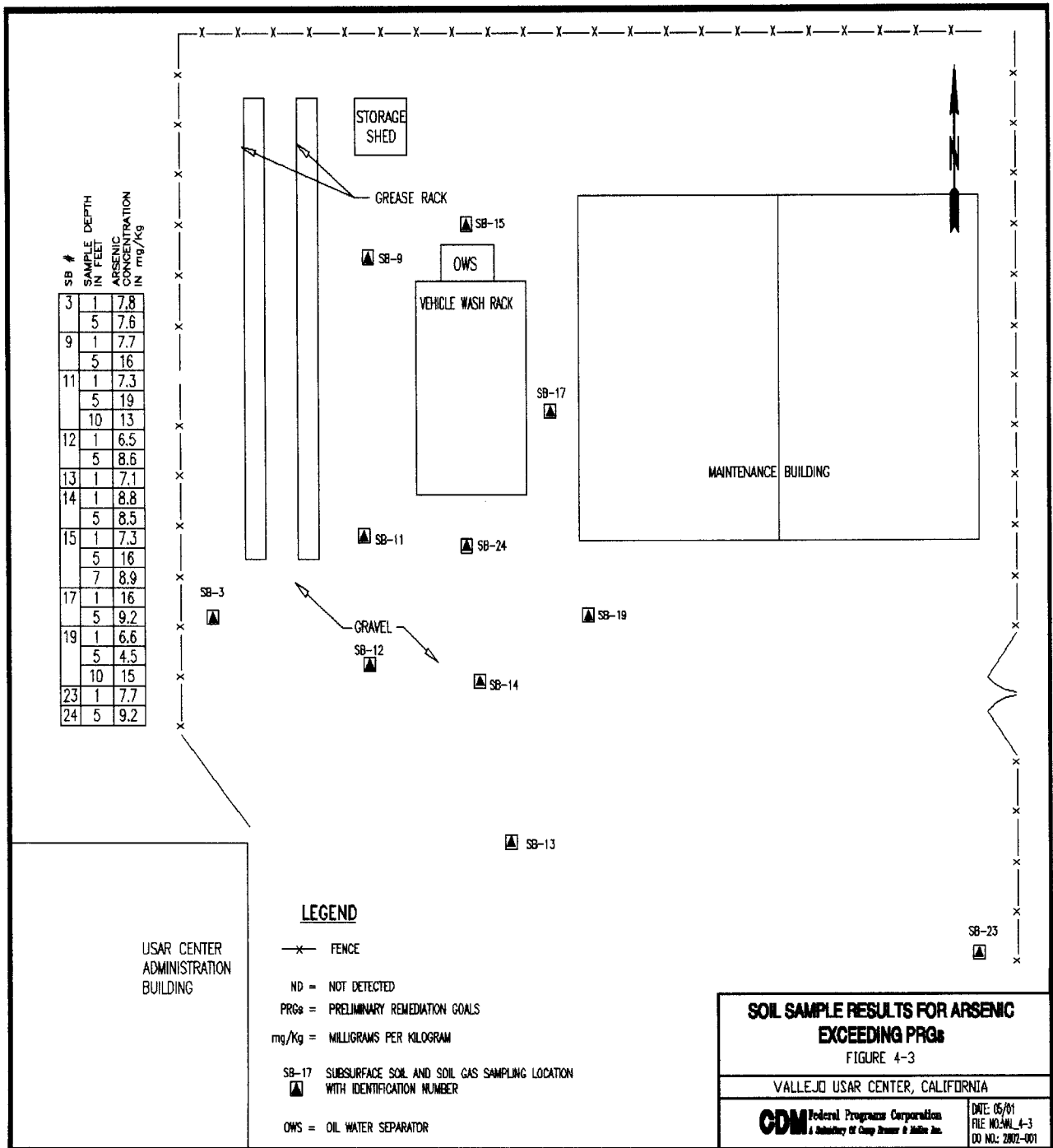
Enclosure 3



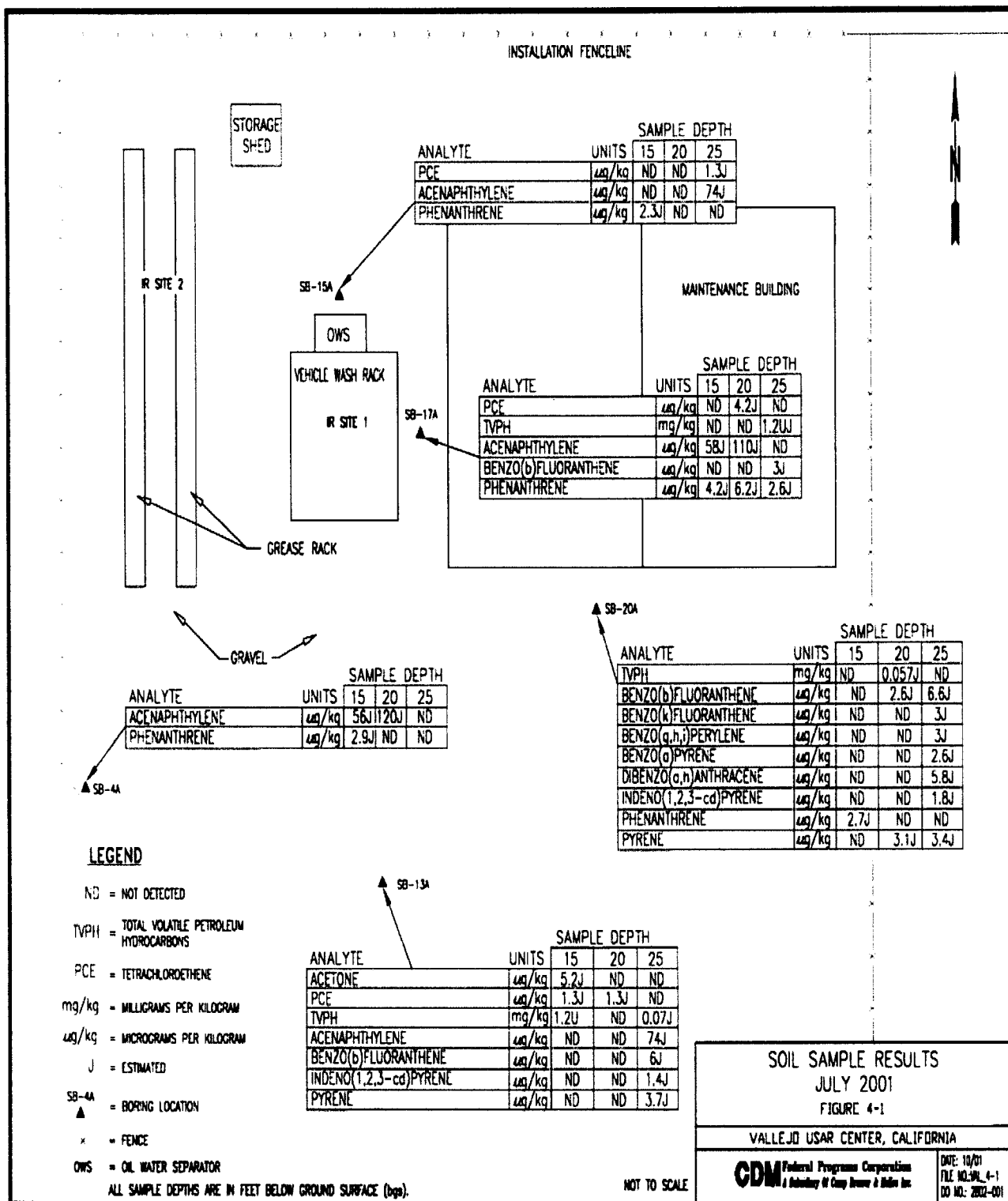
Enclosure 4



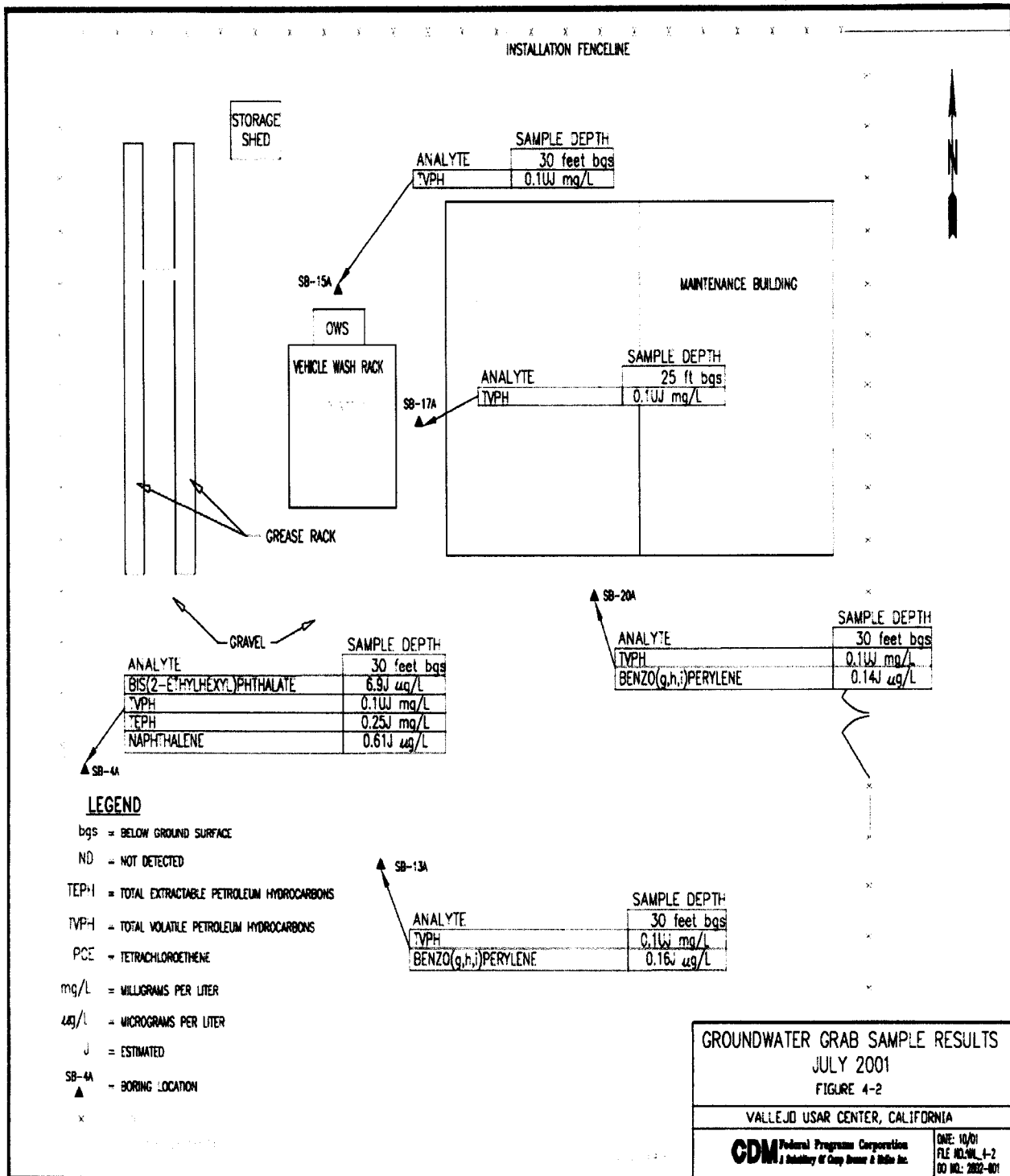
Enclosure 4a



Enclosure 5



Enclosure 5a



Enclosure 6



Winston H. Hickox
Agency Secretary
California Environmental
Protection Agency

Department of Toxic Substances Control

Edwin F. Lowry, Director
8800 Cal Center Drive
Sacramento, California 95826-3200



Gray Davis
Governor

November 17, 2003

Mr. J. Stephen Volk
Adecco/TAD Technical Support
Concord Armed Forces Reserve Center
3225 Willow Pass Drive
Concord, California 94519

COMMENTS ON THE DRAFT PHASE II SITE INVESTIGATION REPORT FOR
INSTALLATION RESTORATION SITES 1 (VEHICLE WASH RACK) AND 2 (GREASE
RACK), ROBERT H. YOUNG UNITED STATES ARMY RESERVE CENTER,
VALLEJO, CALIFORNIA

Dear Mr. Volk:

The Department of Toxic Substances Control (DTSC) has completed its review of the above mentioned Draft Report, dated 02 November, 2001. The Report summarizes Phase II field activities that have been conducted in the vicinity of the Vehicle Wash Rack (Site 1) and the Grease Rack (Site 2). The Vehicle Wash Rack consists of a concrete pad, an oil/water separator and associated piping. The Grease Rack consists of two concrete ramps located on top of soil and gravel and is approximately 670 square feet in size. The surrounding area is soil and gravel.

Phase II was conducted using a hollow spoon auger to sample to ground water because the Direct Push Technology used in Phase I was unable to reach ground water depth. DTSC concurs with the Draft Report's conclusion that no further investigation is necessary for reasons described below:

1. Sampling

A total of 43 subsurface soil samples, including four duplicates, were analyzed for Volatile Organic Compounds (VOC), Total Volatile Petroleum Hydrocarbons (TVPH), and Total Extractable Petroleum Hydrocarbons (TEPH). Seventeen samples were analyzed for Polyaromatic Hydrocarbons (PAH), and 21 samples were analyzed for California Assessment Metals (CAM) and Semi-Volatile Petroleum Hydrocarbons (SVOC). Six ground water grab samples were analyzed for VOCs, SVOCs, TVPH.

California Environmental Protection Agency
♻️ Printed on Recycled Paper

Enclosure 6 Continued

Mr. J. Stephen Volk
November 17, 2003
Page 2

TEPH, and PAH. Four soil samples were taken for supplementing previous arsenic background sampling.

2. Results

The only constituent that exceeded its U.S. Environmental Protection Agency (U.S. EPA) Preliminary Remediation Goal (PRG) was arsenic. Arsenic exceeded its Industrial cancer endpoint PRG of 1.6 milligram per kilogram (mg/kg) in at least one sample of every boring. Background arsenic (detection limit 0.3 mg/kg) was detected at 3.3 and 6.48 mg/kg at 2' below ground surface (bgs) and at 9.53 and 10.1 mg/kg at 4' bgs in 2001. In the 2002 sampling, for two borings, background arsenic was non-detect at 2' bgs (detection limit 9 mg/kg), and was 11 and 13 mg/kg at 4' bgs. Thus, all reported background arsenic was also over the Industrial cancer endpoint PRG and increased with depth.

Most of the investigation borings' arsenic concentrations were in the 7 to 9 mg/kg range with six samples in the 13 to 19 mg/kg range. These values are below the Residential non-cancer endpoint PRG of 22 mg/kg, an order of magnitude less than the Industrial non-cancer endpoint of 260 mg/kg, and are still in the range of background for California as described in scientific literature and as found at other sites in the Bay Area. Of these higher concentrations, only one was a surface sample – investigative arsenic concentrations also tended to increase with depth. Specifically, of the nine borings that had multi-depth samples for metals, six showed increasing arsenic with depth, two were neutral, and the one above-mentioned surface sample decreased with depth.

A review of the available soil boring logs showed similar soil types for the samples with higher arsenic concentrations: silty clay grading to silty gravel at approximately 5-7' bgs. No other constituents were detected above screening levels in the other 60 samples. Finally, there is no documentation of a suspected arsenic source at the grease or wash racks.

Given the above, DTSC concurs that no further investigation is necessary. As always, DTSC reserves the right to revisit this decision if new information is obtained that indicates a need to do so.

Enclosure 6 Continued

Mr. J. Stephen Volk
November 17, 2003
Page 3

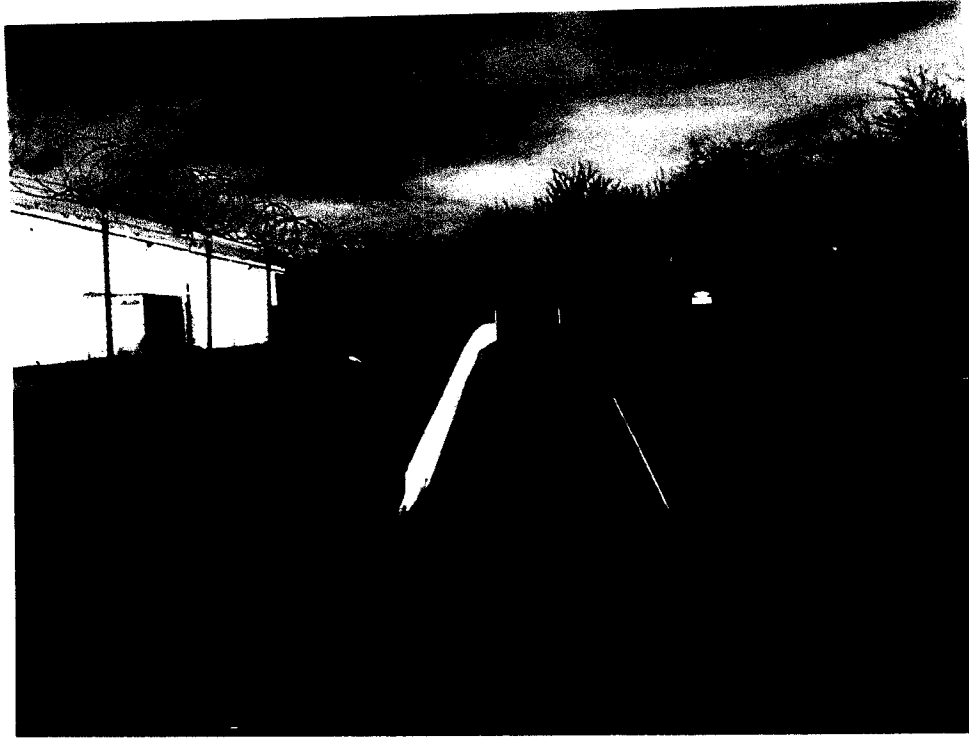
If you have any questions or comments, please contact me at (916) 255-3714 or via e-mail at tescarda@dtsc.ca.gov.

Sincerely,

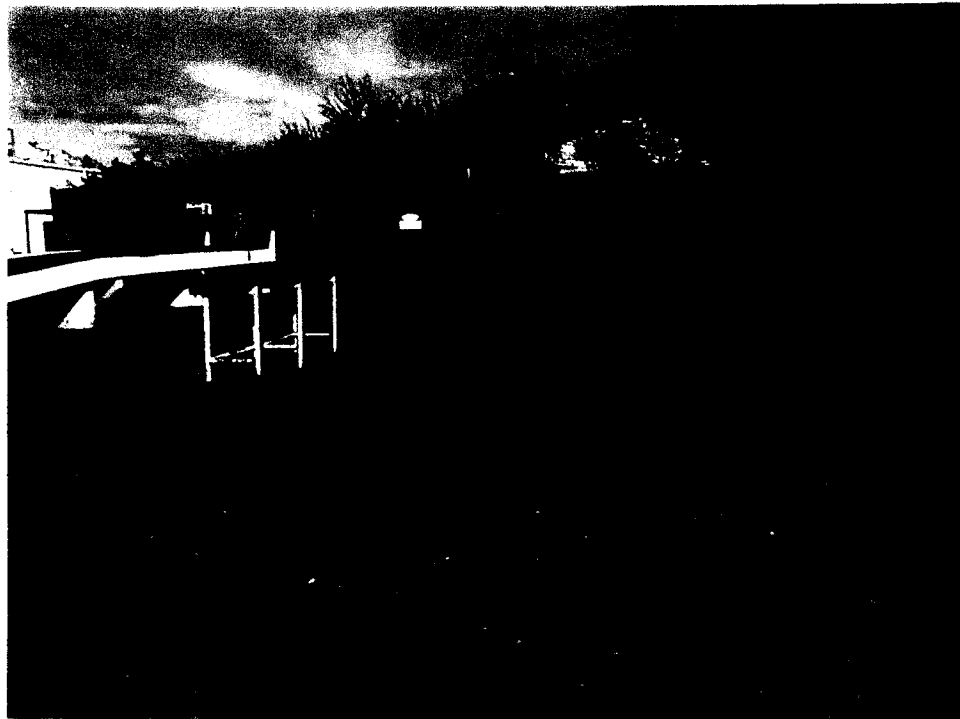


Terry M. Escarda, P.E.
Project Manager
Office of Military Facilities

cc: Mr. Dennis Mishek
Regional Water Quality Control Board
San Francisco Bay Division
1515 Clay Street, Suite 1400
Oakland, California 94612



Grease Rack Looking East



Vehicle Washrack Looking East